AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method for producing a synchronized population of pine somatic embryos, the method comprising:

(a) cultivating pre-cotyledonary pine embryogenic cells in, or on a maintenance medium comprising nutrients that sustain the pine embryogenic cells;

(b) cultivating pre-cotyledonary pine embryogenic cells from step (a) for a period from one week to two weeks in, or on, a synchronization medium that comprises maltose as the principal metabolizable sugar source, an absorbent composition and at least one synchronization agent selected from the group consisting of abscisic acid and a gibberellin, wherein the absorbent composition and the at least one synchronization agent are present at a concentration effective to produce a synchronized population of pre-cotyledonary pine somatic embryos wherein at least 50% of the pre-cotyledonary pine somatic embryos in the synchronized population are at the same developmental stage; and

(c) transferring the synchronized population of pre-cotyledonary pine somatic embryos from step (b) to a development medium and culturing the pre-cotyledonary pine somatic embryos for a period from 9 to 14 weeks to produce a synchronized population of cotyledonary pine somatic embryos.

2. (Original) The method of Claim 1 wherein the absorbent composition is selected from the group consisting of activated charcoal, soluble poly(vinyl pyrrolidone), insoluble poly(vinyl pyrrolidone), activated alumina, and silica gel.

3. (Original) The method of Claim 2 wherein the absorbent composition is activated charcoal.

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4. (Original) The method of Claim 1 wherein the concentration of the absorbent composition in the synchronization medium is from about 0.5 g/L to about 50 g/L.

5. (Original) The method of Claim 1 wherein the absorbent composition is activated charcoal, and the activated charcoal is present in the synchronization medium at a concentration in the range of from about 0.1 g/L to about 5 g/L.

6. (Original) The method of Claim 1 wherein the absorbent composition is activated charcoal, and the activated charcoal is present in the synchronization medium at a concentration in the range of from about 0.5 g/L to about 1 g/L.

7. (Original) The method of Claim 1, wherein abscisic acid is used as a synchronization agent.

8. (Original) The method of Claim 1, wherein a gibberellin is used as a synchronization agent.

9. (Original) The method of Claim 1, wherein abscisic acid and at least one gibberellin are used as synchronization agents.

10. (Original) The method of Claim 1, wherein a gibberellin is present in the synchronization medium at a concentration of from about 0.5 mg/L to about 500 mg/L.

11. (Original) The method of Claim 1, wherein a gibberellin is present in the synchronization medium at a concentration of from about 1.0 mg/L to about 100 mg/L.

12. (Original) The method of Claim 1, wherein abscisic acid is present in the synchronization medium at a concentration of from about 1.0 mg/L to about 500 mg/L.

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13. (Original) The method of Claim 1, wherein abscisic acid is present in the synchronization medium at a concentration of from about 0.5 mg/L to about 20 mg/L.

14–16. (Canceled)

17. (Original) The method of Claim 1, wherein the osmolality of the synchronization medium is from about 90 mM/Kg to about 300 mM/Kg.

18. (Original) The method of Claim 1, wherein the pH of the synchronization medium is from about 5 to about 6.

19. (Original) The method of Claim 1, wherein Loblolly pine somatic embryos are produced from Loblolly pine embryogenic cells.

20. (Canceled)

21. (Previously presented) The method of Claim 1, wherein at least 75% of the embryos in the synchronized population of pine somatic embryos are at the same developmental stage.

22. (Canceled)

23. (Previously presented) The method of Claim 1, wherein the osmolality of the development media of step (c) is higher than the osmolality of the synchronization media of step (b).

24. (Previously presented) The method of Claim 1, wherein the osmolality of the synchronization media of step (b) is from about 90 mM/Kg to about 300 mM/Kg; and the osmolality of the development media of step (c) is from about 250mM/Kg to about 450 mM/Kg.

25. (New) The method of Claim 1, wherein the synchronization medium of step (b) is a solid medium.

26. (New) The method of Claim 1, wherein the synchronization medium of step (b) is a liquid medium.

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